

What is claimed is:

1. A safety light comprising:

a housing containing a power source with an available power;

a primary bulb that operates with a first power and at least one LED bulb that operates

5 with a second power lower than the first power;

and a sensor connected to the power source, the primary bulb, and the at least one LED bulb;

wherein when the sensor determines that the available power is inadequate to supply the first power, the sensor switches the safety light from operation of the primary bulb to operation  
10 of the at least one LED bulb.

2. The safety light of claim 1, wherein the first power is a minimum power required to maintain the primary bulb at full illumination.

15 3. The safety light of claim 1, wherein the safety light can be operated at half the first power to maintain the primary bulb at half illumination.

4. The safety light of claim 1, wherein the second power is a minimum power required to maintain the at least one LED at full illumination.

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5. The safety light of claim 1, wherein the at least one LED can be operated in a flashing mode.

6. The safety light of claim 1, further comprising an activation button that can be activated to select between an off condition, a primary bulb operation condition, and an LED operation condition of the safety light.

7. The safety light of claim 6, wherein the primary bulb operation condition includes a fully illuminated bulb position and a half illuminated bulb position.

8. The safety light of claim 6, wherein the LED operation condition includes a steady LED position and a flash LED position.

9. The safety light of claim 6, wherein the activation button can be operated to override the automatic sensor switching from operation of the primary bulb to operation of the at least one LED bulb.

10. A method for operating a safety light for a bicycle, the safety light including a housing containing a power source with an available power, a primary bulb that requires a first power and at least one LED bulb that requires a lower power than the first power, and a sensor coupled to the power source, the primary bulb, and the at least one LED bulb, the method comprising:

operating the primary bulb;

monitoring the available power;

switching operation from the primary bulb to the at least one the LED bulb when the available power falls below the first power.

11. A method of operating a safety headlight having an electrical power source with an available power, a higher power light bulb, and a lower power light bulb, the method comprising:

supplying power from the power source to the higher power light bulb to light the higher power light bulb;

5 monitoring the available power of the electrical power source; and  
discontinuing the supply of power to the higher power light bulb and supplying power to the lower power light bulb if the monitored available power falls below a pre-selected threshold.

10 12. The method of claim 11 wherein power source comprises at least one battery.

13. The method of claim 11 wherein the monitoring of the available power comprises measuring the voltage of the electrical power source.

15 14. The method of claim 11 and wherein safety headlight further includes a manually operable switch, the method further comprising the steps of monitoring for activation of the manually operable switch and, in response to a detected activation, changing the operational modes of the higher and the lower power light bulbs.

20 15. A method of claim 14 and wherein the step of changing the operational modes of the higher and lower power light bulbs includes switching the higher power light bulb from a higher brightness condition to a lower brightness condition.